UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/006,291	11/30/2001	Shigang Chen	50325-0626	2742

29989   7590   04/20/2005

HICKMAN PALERMO TRUONG & BECKER, LLP
2055 GATEWAY PLACE
SUITE 550
SAN JOSE, CA 95110

EXAMINER
PICH, PONNOREAY

ART UNIT	PAPER NUMBER
2135	

DATE MAILED: 04/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/006,291	CHEN ET AL.
	Examiner	Art Unit	
	Ponnoreay Pich	2135	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>30 November 2001</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-30</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) <u>11-17</u> is/are allowed.

6)☒ Claim(s) <u>1-10,18-26 and 28-30</u> is/are rejected.

7)☒ Claim(s) <u>27</u> is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>30 November 2001</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claims 1-30 have been examined and are pending.

Drawings

New corrected drawings in compliance with 37 CFR 1.121(d) are required in this

application because of the following informalities:

1. Fig 1A, Fig 1B, Fig 3 are hand drawn, messy, and hard to follow.

2. Fig 1A does not show an item labeled as item 112 as discussed on p12, lines 12-14

    of the specification.

3. Fig 1B does not show item 112 as discussed in p15, paragraph 0066 of the

    specification. Instead, there is an item 116, which the examiner assumes was

    mislabeled and should instead be item 112.

4. In Fig 1B, item 114 is not shown as discussed on p15, paragraph 0065 of the

    specification.

5. Fig 4 includes messy hand written corrections.

6. On p18, paragraph 0078, step 420 in Fig 4 is disclosed. This step is not labeled in

    the corresponding figure.

7. The hand drawn figures 1A and 1B has not been examined to the full extent for

    errors as they are very messy and hard to follow at times. The examiner respectfully

    suggests the applicant double check what is disclosed in the specification with what

    is shown in Fig 1A and 1B after a more formal set of drawings are drafted.

Applicant is advised to employ the services of a competent patent draftsperson

outside the Office, as the U.S. Patent and Trademark Office no longer prepares new

drawings. The corrected drawings are required in reply to the Office action to avoid

abandonment of the application. The requirement for corrected drawings will not be held

in abeyance.

Specification

The disclosure is objected to because of the following informalities:

1. The sentence on p12, lines 7-8 does not appear to be a complete sentence. The

   examiner does not understand what idea the applicant is trying to convey with the

   sentence which begins, "Each located node...."

2. The applicant's definition of a "path closure set" as defined on p7, paragraph 0034 is

   objected to. In the cited passage, the applicant defines a path closure set as "a

   select set of nodes between a source node and a destination node. Each node in a

   path closure set is part of a communication path between the source and

   destination...the path closure set represents a subset of nodes in the network

   topology that can form part of a non-looping path between the source node and the

   destination node." This implies that the set of nodes in a path closure set does not

   include any node which forms a loop. However, p9-10, paragraphs 0047 and 0048

   list three conditions which if satisfied would designate located nodes as part of a

   path closure set:

   a. A first condition states that a sequence of adjacent nodes are part of the path

      closure set when on of the located nodes is the destination node, and if the

      resulting path between the source node and the destination node is non-

      looping.

b. The second condition states that a sequence of adjacent nodes are part of the path closure set when on of the located nodes is identified as a loop closure node, and if any of the nodes in the sequence other than the loop closure nodes are already designated as part of the closure set.

c. The third condition states that a sequence of adjacent nodes are part of the path closure set when one of the located nodes is identified as a loop closure node, and if a selected one of the sequence of nodes, other than the loop closure node, is subsequently designated as part of the path closure set.

The first condition agrees with the definition as set forth by the applicant on p7. However, the other two conditions imply that nodes in a loop can also be part of the path closure. This contradicts the definition given on p7 in which a path closure set consists of nodes which form a non-looping path between the source and the destination node. The examiner also notes that the example given on p13, paragraphs 0059 and 0060 also indicates that a loop can be part of a path closure set, i.e. the nodes in path 154 form a loop and the applicant states that the nodes in the loop are in the path closure set because the second condition is met. In light of this, the examiner believes that the applicant meant for the definition of a path closure set to be the set of nodes which forms a communication path from the source to destination node, which can include loops. In examining this application, the examiner will use this definition.

Appropriate correction is required.

Claim Objections

Claim 30 is objected to because of the following informalities:

1. As per claim 30, on line 2, the examiner believes that the applicant meant to recite "a processor configured with" instead of "a processor configured to".

    Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5-8 and 25-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

1. As per claims 5 and 24, lines 5-6 of each claims recites "at least one criteria for belonging to one for the non-looping communication paths." It is unclear what those criteria are as they lack antecedent basis, but the examiner believes that the criteria are recited in claims 7 and 8.

2. As per claims 6 and 25, lines 4-5 and lines 9-10 of each claim respectively recites "at least one criteria for belonging in the path closure set." It is unclear what those criteria are as they lack antecedent basis, but the examiner believes that the criteria are recited in claims 26 and 27.

3. Any claims not specifically addressed are rejected by virtue of dependency.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 18-21, and 30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Callon (US 6,256,295) in view of Adams et al (US 2003/0016679).

Claim 1:

Callon discloses a computer-implemented method of determining enforcement

security devices in a network topology, the method comprising:

1. Identifying a source node and destination node for traffic that is to be sent

   through the network topology (col 3, lines 33-44 and Fig 2).

2. Programmatically identifying nodes in the network topology that are part of the

   path closure set for the source node and destination node (col 3, lines 33-57 and

   Fig 2).

Callon does not explicitly disclose identifying nodes that are security devices.

Callon also does not explicitly disclose creating and storing a list of one or more

enforcement security devices. However, nodes as firewalls were well known at the time

the applicant's invention was made. Adams also discloses nodes in a network can be a

firewall (p2, paragraph 0014, lines 1-15). Further, the manner in which each type of

node in a network is configured must be different because of the differences in the node

types (i.e. a switch is configured differently from a firewall, which is different from a

server, ect.). As such, it would have been obvious to one of ordinary skill to have identified nodes that are security devices in light of Callon and Adams's teachings. One of ordinary skill would have been motivated to do so as it would allow one of ordinary skill to know what type of device the node is, which is necessary to know how to configure the node.

The examiner notes the definition of an "enforcement security device" as defined by the applicant is a security device that affects communications between a specified source and destination node. It is the nature of firewalls to implement a security policy which affects communications which are routed through them. Therefore, any firewall node that is part of the path closure set must be an "enforcement security device."

The examiner also notes that a list is a series of items that are printed or imagined one after the other. As such, when Callon's method programmatically identifies nodes in the network topology that are part of the path closure set for the source node and destination node, it must create a list of some sort. As firewalls can be nodes in path closure set (as disclosed by Adams), the firewalls must be in the list.

It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made in light of Adams's teachings to modify Callon's method according to the limitations recited in claim 1. One of ordinary skill would have been motivated to do so as firewalls implement security policies for a network, thus making the network more secure.

Claim 2:

Callon and Adams disclose all the limitations of claim 1. Callon does not explicitly disclose implementing a security policy on security devices that are identified as nodes in the path closure set.

However, Adams discloses nodes in a network can be a firewall (p2, paragraph 0014, lines 1-15). A firewall is a security device; it is the function of firewalls to implement security policies. Therefore, the limitation recited in claim 2 merely describes what a firewall does. It has been established already in claim 1 that it would have been obvious to one of ordinary skill in the art to include firewalls as security devices in a network and one of ordinary skill would be motivated to do so for security reasons.

Claim 18:

Claim 18 is substantially similar to claim 1. The differences is that claim 18 refers to a policy server communicatively coupled to one or more security devices in a network to implement a security policy, the policy server comprising a processor configured to implement the method of claim 1. Another slight difference is that the third limitation of claim 1 refers to identifying each node in the path closure set that is a security device to result in creating and storing a list of one or more enforcement security devices, while claim 18 merely refers to using the processor being configured to identify each node in the path closure set that is a security device. However, the examiner asserts that this third limitation is still substantially similar to the third limitation of claim 1. As such, the examiner asserts that the limitations recited in claim 18, can be rejected using the same arguments and motivations discussed in claim 1. Note that there must be a policy server communicatively coupled to one or more security devices in a network to

implement the security policy, the policy server comprising a processor configured to

implement the method of claim 1 or the method could not be implemented.

Claim 19:

The examiner asserts that claim 19 is substantially similar to claim 2 and the

same arguments used to reject claim 2 also applies to claim 19. The difference is that

claim 2 refers to a policy server used to implement a method substantially similar to that

of claim 2.

Claim 20:

Claim 20 is substantially similar to claims 1 and 18 and is rejected using the

same arguments and motivations. The difference is that claim 20 refers to a computer

readable medium for determining enforcement security devices in a network topology,

the computer readable medium carrying instructions for implementing the method

carried out by the processor of the policy server of claim 18, which is the method of

claim 1.

Claim 21:

Claim 21 is substantially similar to claim 2 and is rejected using the same

arguments and motivations. The differences is that claim 21 refers to a computer

readable medium comprising instructions for implementing the method of claim 2.

Claim 30:

Claim 30 is substantially similar to claims 1 and 18 and is rejected using the

same arguments and motivations. The difference is that claim 30 refers to a computer

system to determine enforcement security devices in a network topology whose

processor is configured with means to implement the limitations recited in claim 18,

which is the method of claim 1.

Claims 6, 9-10, 25, and 28-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Callon (US 6,256,295) in view of Adams et al (US 2003/0016679)

and further in view of Cormen et al ("Introduction to Algorithms").

Claim 6:

Callon and Adams disclose all the limitations of claim 1. Callon also discloses

programmatically identifying nodes in the network topology that are part of the path

closure set (col 3, lines 33-57 and Fig 2). Callon and Adams do not explicitly disclose

wherein:

1. Programmatically identifying nodes in the network topology that are part of a path

   closure set **includes determining, prior to identifying all of the nodes in the**

   path closure set, if each node in the network topology satisfies at least one

   criteria for belonging in the path closure set.

2. Determining if each node in the network topology satisfies at least one criteria for

   belonging in the path closure set include traversing amongst adjacent nodes in a

   sequence until each node in the network topology is checked to determine if that

   node satisfies at least one criteria for belonging to the path closure set.

As per the first limitation recited in claim 6, it is obvious that one *cannot* identify

all the items of a group which meets at least one criteria for joining a subgroup until one

test to determine which items which exists in the group meets at least one criteria for

joining a subgroup. Therefore, as Callon discloses programmatically identifying the

nodes in the network topology that are part of a path closure set, the first recited

limitation in claim 6 is also obvious as there is no other way to do what Callon discloses

except via the first recited limitation in claim 6.

As per the second limitation recited in claim 6, Cormen discloses the use of a

depth-first search to explore the nodes of a graph/network which reads on forward

traversing amongst adjacent nodes in a network in a sequence (p477, section 23.3, first

paragraph).

It would have been obvious to one of ordinary skill in the art in light of the above

disclosures to further modify the combination method of Callon and Adams according to

the limitations recited in claim 6. One of ordinary skill would have been motivated to do

so because there is no other way around doing what the first limitation recites to

programmatically identifying nodes in the network topology that are part of a path

closure set and because Cormen discloses that the use of a depth-first search would

allow all nodes in the network to be visited (p477, section 23.3, first paragraph), thereby

ensuring that all the nodes in the network topology are checked.

Claim 9:

Callon and Adams disclose all the limitations of claim 1. Callon also discloses

programmatically identifying nodes in the network topology that are part of the path

closure set (col 3, lines 33-57 and Fig 2). Callon and Adams do not explicitly disclose checking each node in the network topology as being part of the path closure set by forward traversing from the source node to a sequence of nodes that are adjacent to one another until each node in the network topology is checked.

However, Cormen discloses the use of a depth-first search to forward traverse from the source node to a sequence of nodes that are adjacent to one another until each node in the network topology is visited (p477, section 23.3, first paragraph). It would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to further modify the combination method of Callon and Adams according to the limitation recited in claim 9 in light of Cormen's teachings. One of ordinary skill would have been motivated to do so as the use of a depth-first search would allow all nodes in the network to be visited (p477, section 23.3, first paragraph).

Claim 10:

Callon and Adams disclose all the limitations of claim 1. Callon and Adams do not disclose wherein identifying each node in the path closure set includes checking each node in the network topology as being part of the path closure set using a depth-first methodology. However, Cormen discloses the use of a depth-first methodology (p477, section 23.3, first paragraph). In light of Cormen's teachings it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to further modify the combination method of Callon and Adams according to the limitation recited in claim 10. One of ordinary skill would have been motivated to do so for the same reason given in claim 9.

Claim 25:

Claim 25 is substantially similar to claim 6 and is rejected using the same

arguments and motivations as claim 6. The difference is that claim 25 refers to a

computer readable medium with instructions for implementing the method of claim 6.

Claim 28:

Claim 28 is substantially similar to claim 9 and is rejected using the same

arguments and motivations as claim 9. The difference is that claim 28 refers to a

computer readable medium with instructions for implementing the method of claim 9.

Claim 29:

Claim 29 is substantially similar to claim 10 and is rejected using the same

arguments and motivations as claim 10. The difference is that claim 29 refers to a

computer readable medium with instructions for implementing the method of claim 10.

Claims 3 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Callon (US 6,256,295) in view of Adams et al (US 2003/0016679) and further in view of

Zaumen et al (US 5,881,243).

Claim 3:

Callon and Adams disclose all the limitations of claim 1. Callon also discloses

programmatically identifying nodes in the network topology that are part of the path

closure set (col 3, lines 33-57 and Fig 2). Callon and Adams do not disclose locating

each node in the network topology, and determining if each located node is part of at

least one non-looping communication path extending between the source and the destination node.

However, Zaumen discloses that at the time the applicant's invention was made, it was well known in the art to programmatically locate each node in the network topology (col 1, lines 40-43). Zaumen also disclosed that it was well known to determine if each located node is part of a non-looping communication path extending between the source and the destination node (col 2, lines 29-54).

In light of Zaumen's teachings, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to further modify Callon and Adams combination method according to the limitations recited in claim 3. One of ordinary skill would have been motivated to locate each node in the network topology as it would allow for a way to find the shortest path from the source node to the destination as disclosed by Zaumen (col 1, lines 40-43). One of ordinary skill would have been motivated to determine if each located node is part of at least one non-looping communication path extending between the source and the destination node as Zaumen discloses that it would avoid the problem of counting to infinity which is a danger with network loops (col 2, lines 52-54).

Claim 22:

Claim 22 is substantially similar to claim 3 and is rejected using the same arguments and motivations. The difference is that claim 22 refers to a computer readable medium including instructions for implementing the method of claim 3.

Claims 4-5 and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Callon (US 6,256,295) in view of Adams et al (US 2003/0016679) and further in

view of Zaumen et al (US 5,881,243) and Cormen et al ("Introduction to Algorithms").

Claim 4:

Callon and Adams disclose all the limitations of claim 1. Callon also discloses

programmatically identifying nodes in the network topology that are part of the path

closure set (col 3, lines 33-57 and Fig 2). Callon and Adams do not disclose wherein:

1. The step of programmatically identifying nodes in the network topology that are

    part of a path closure set **includes locating a plurality of nodes in the network**

    topology, and determining if each of the plurality of nodes is part of at least

    one non-looping communication path extending between the source node

    and the destination node.

2. The step of identifying each node in the path closure set is performed so that a

    duration for identifying all nodes in the path closure set is proportional to a

    number of links between each node in the network topology.

As per the first limitation of claim 4 recited above, the examiner asserts that it is

substantially similar to the limitation recited in claim 3 and the same arguments and

motivation used to reject claim 3 applies to it also. The difference is that claim 3 refers

to "locating each node in the network topology," which the first limitation of claim 4

refers to "locating a plurality of nodes in the network topology." The examiner asserts

that locating each node in the network topology is still the same thing as locating a

plurality of nodes in the network topology. It would have been obvious to one of

ordinary skill in the art at the time the applicant's invention was made to modify the

combination method of Callon and Adams according to the first limitation recited in

claim 4 for the same motivation and reasons given in claim 3.

As per the second limitation recited in claim 4, Cormen discloses the use of a

depth-first search algorithm to explore a graph so that all nodes that are reachable from

a given vertex has been discovered (p477, section 23.3, first paragraph). Note that

graph theories apply to network topologies. As a network is usually bidirectional and all

nodes are connected either directly or via another set of nodes, it is possible to use a

depth-first search to discover all the other nodes in the network from any one node.

Cormen also discloses that the running time of a depth-first search algorithm is $\Theta(V+E)$,

meaning that it is proportional to the number of vertices in the graph and the number of

edges in the graph (p479, second paragraph).

It would have been obvious to one of ordinary skill in the art at the time the

applicant's invention was made to further modify the combination method of Callon and

Adams to make use of a depth-first search algorithm according to the second limitation

recited in claim 4 in light of Cormen's disclosure. One of ordinary skill would have been

motivated to do so as a depth first search allows for a way to discover all the nodes in a

network or graph and thus know the network topology (p477, section 23.3, first

paragraph). Knowing the network topology is needed to find the shortest route from the

source to the destination as disclosed by Zaumen (col 1, lines 40-43). It is also obvious

that one cannot know what the shortest path is without knowing what the entire network

topology is as one would not be able to know all the routes from the source to the

destination otherwise. If one does not know all the routes from a source to the

destination, one cannot know what the shortest path is.

Claim 5:

Callon and Adams disclose all the limitations of claim 1. Callon also discloses

programmatically identifying nodes in the network topology that are part of the path

closure set (col 3, lines 33-57 and Fig 2). Callon and Adams do not disclose forward

traversing a series of nodes sequentially before identifying all non-looping

communication paths extending between the source node and the destination node,

and determining if each node in the network topology satisfies at least one criteria for

belonging to one of the non-looping communication paths identified as extending

between the source node and the destination node.

However, Cormen discloses the use of a depth-first search to explore the nodes

of a graph/network which reads on forward traversing a series of nodes sequentially

(p477, section 23.3, first paragraph). Also, Zaumen discloses that at the time the

applicant's invention was made, methods were known in the art which identifies non-

looping paths from a source to a destination (col 2, lines 29-54). Therefore, the criteria

for a path being a non-looping path between the source and destination node, must

have been known. Zaumen also discloses providing a shortest loop-free path from the

source to the destination (col 8, lines 15-20). As such, all the non-looping

communication paths extending between the source node and the destination node

must have been identified by Zaumen or Zaumen would not know which path was the shortest.

In light of the above disclosures by Cormen and Zaumen, it would have been obvious to one of ordinary skill in the art at the time the applicant's invention was made to further modify Callon and Adams combination method according to the limitations recited in claim 5. One of ordinary skill would have been motivated to do so for the same reasons given in claims 3 and 4.

Claim 23:

Claim 23 is substantially similar to claim 4 and is rejected using the same arguments and motivations as claim 4. The difference is that claim 23 refers to a computer readable medium with instructions for implementing the method of claim 4.

Claim 24:

Claim 24 is substantially similar to claim 5 and is rejected using the same arguments and motivations as claim 5. The difference is that claim 24 refers to a computer readable medium with instructions for implementing the method of claim 5.

Allowable Subject Matter

Claims 7-8 and 26-27 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 7:

As per claim 7, the examiner was able to find art which deals with identifying a node as being in the path closure set if that node is part of a non-looping sequence of adjacent nodes that extend between the source node and the destination node. This limitation is also obvious as a non-looping path is inherently a path from the source node to the destination node, therefore the nodes found in that non-looping path would belong to the path closure set.

However, the examiner was not able to find art disclosing the second limitation recited in claim 7, which deals with *identifying that node as being in the path closure set if that node is part of a looping sequence of nodes in which at least one node in the looping sequence is already designated as being part of the path closure set, and in which the at least one node designated as being part of the path closure set is not also a loop closure node for that looping sequence.* The closest art that examiner found which might suggest the above recited limitation states that a path from a source node to a destination node can include temporary loops. The art does not state anything as specific as the above recited limitation as conditions for including nodes found in a loop in a path closure set, however. The examiner notes that it is obvious that as the prior art teaches that the path from a source node to the destination node can include loops that the nodes found in a loop could be included as the nodes in a path closure set. However, the examiner could not find a motivation in the prior art or on his own (that was not suggested by the applicant) as to why one of ordinary skill would use the above recited limitation as a reason for including the nodes in a looping sequence as part of the path closure set.

Claim 8:

The first and second limitations of claim 8 are exactly like that of claim 7. As per the third limitation, the examiner also was not able to find a prior art which deals with *identifying that node as being in the path closure set if that node is part of a looping sequence of nodes in which at least a first adjacent node to a loop closure node for that looping sequence of nodes is subsequently identified as being part of the path closure set.* Like the second limitation of claims 7 and 8, the closest thing suggested by the prior art which is close to reading on the third recited limitation of claim 8 is that the path from a source node to a destination node can contain loops. However, also like the second limitation recited in claims 7 and 8, the examiner could not find a motivation in the prior art or on his own (that was not suggested by the applicant) as to why one of ordinary skill would use the above recited limitation as a reason for including the nodes in a looping sequence as part of the path closure set.

Claim 26:

Claim 26 refers to a computer readable medium with instructions for performing the method as recited in claim 7.

Claim 27:

Claim 27 refers to a computer readable medium with instructions for performing the method as recited in claim 8.

Claims 11-17 are allowed.

Claim 11:

As per claim 11, it contains a limitation that is substantially similar to that of claims 7 and 8 which the examiner explains above as to why he thinks are allowable subject matter. One of the limitations of claim 11 refers to *determining if the located node is a loop closure node, then determining if one or more nodes in the sequence that are part of a loop path defined by the loop closure node are already designated as being part of the path closure set, and if one or more nodes in the sequence that are part of a loop path defined by the loop closure nodes are already designated as being part of the path closure set, then designating each node in the loop path as part of the path closure set, else designating each node in the loop path as part of the path closure set if at least a designated node in the loop path is subsequently determined to be part of the path closure set.*

Claims 12-17:

Claims 12-17 depend on independent claim 11.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ponnoreay Pich whose telephone number is 571-272-7962. The examiner can normally be reached on 8:00am-4:30pm Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kim Vu can be reached on 571-272-3859. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Business Center (EBC) at 866-217-9197 (toll-free).

PP

KIM VU
PATENT EXAMINER
TECHNOLOGY CENTER 2100